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CENTRAL INTELLIGENCE AGENCY

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SUBJECT German Scientists at Test Plant
No. 2 in Upravlencheski

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SOURCE

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1. A group of deported German experts worked on the development of aircraft engines in the Upravlencheski (53°21'N/50°12'E) Test Plant No. 2. The plant was installed in the buildings of the former aircraft accessory plant No. 145 and equipped with dismantled machinery of the former Jumo Plant, including drawing equipment, electric calculating machines, material testing installations, and the high altitude climate test stand which, for the lack of bricks and cement, was not reassembled until September 1950. Power was supplied from Kuibyshev. Frequent breakdowns in the power supply system slowed down the activities.

Personnel

2. Soviet chief designer Colonel (engineer) Kuznetsov (fnu) and German chief designer Doctor (engineer) Scheibe (fnu) were the managers of the plant. Major (engineer) Kvasov (fnu) was Kuznetsov's deputy and also in charge of personnel affairs and industrial planning. 1/ Major Svershnikov (fnu) (sic; probably Sveshnikov) was social welfare officer at the plant. His deputy was Lt. Colonel Galkin (fnu). GPU Major Kollichenko (fnu) was chief of the personnel section. The plant was directly assigned to Deputy Minister of Aviation Industry, Gen. M. M. Lukin. However, basic questions were discussed between the leading German scientists and Lt. Gen. M. V. Khrunichev, Minister of Aviation Industry.
3. The German scientists were organized into three groups: the Jumo group under Doctor Scheibe, the Stassfurth BMW group under Graduate Engineer Prestel (fnu), and the Askania group under Doctor Lertes (fnu), who was later replaced by Graduate Engineer Waldemar Moeller. The BMW and Jumo experts worked together in composite groups which included the corresponding members of the Askania group. The other Askania experts worked in an independent group on directional control devices. Doctor Christian (fnu) and eight men joined the scientists in Upravlencheski at a later date. Doctor Christian came from Kazan. At first he insisted upon his PW status.

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but finally he agreed to work for the Soviets, because he had no money.

4. No specific directives for the research were given by the Soviets, probably because they lacked detailed technical knowledge. The Soviets merely demanded that the projects started at the SKTB No. 1 in Dessau (Sonder Konstruktions Bureau) be carried on. By constantly applying pressure, they made the Germans work successfully. Scientific literature available included the latest American and English publications and whatever the British had left behind of the Junkers library. Soviet literature pertaining to the subject was insufficient as a basis for the project.

Research and Testing

5. The plant was engaged in the reconstruction and testing of German type aircraft engines. An experimental model of the Jumo 004 turbojet power plant was constructed and made ready to be mass-manufactured by mid-1947. This power plant had a thrust of 1,500 kg and was designed for an altitude of 8,000 m. The next engine ready for mass-production by late 1948 was the Jumo 012, which has a thrust of 2,500 to 3,000 kg at an altitude of 8,000 m. The most important project at the plant was the turboprop engine of type Jumo 022 fitted with two four-bladed counter rotating propellers. This engine was successfully tested in late 1950. It had 5,000 to 6,000 shaft hp at an altitude of 8,000 m and an additional thrust of 300 to 500 kg. The specific fuel consumption of 300 g/hp/h in September 1950 was to be reduced to 200 g/hp/h. This was presumably accomplished by the end of 1950, as experts engaged in this project wrote that they were given a large Christmas bonus.
6. During the tests, the Jumo 004 turbojet power plant was started with compressed air. It was not known whether the Riedel starter was still being worked on, or which starting system was to be used with this engine later. The 012 and 022 Jumo engines were equipped with the newly designed TS starter. This gas turbine starter engine had delivered 75 hp at 20,000 to 30,000 rpm, and was fitted with a spiral-shaped combustion chamber. Experiments with afterburning were still in an early stage. Hollow turbine blades were replaced by solid profile milled blades. Experiments with blades made of folded sheet-metal were not carried on. The turbines had a temperature of about 700 degrees Celsius. The lack of suitable steel alloys, and especially of nickel, caused difficulties in the production of turbines.
7. A power plant was tested three times. The first test, a preliminary plant test, was followed by the official plant test, which in turn was succeeded by the state test. This state test was performed by a commission from Moscow. The engine was inspected, disassembled, and every small part of it was stamped and marked by the commission. The reassembling of the power plant was strictly guarded and the reassembled power unit was sealed. The next stage of the state test was the so-called documentation of the engine data. This stage included the recording of the functioning on graphic charts, details on the production process, and directions for the manufacturing plant, such as preparations required for the production, list of materials, tools, jigs, and fixtures including sketches and photographs. The documentation also included a detailed description of the test stand, its instruments, and all previous testing data. The preliminary test results were closely checked against the data obtained during the state test.
8. The 012 and 022 Jumo engines were tested for a total of 100 hours in 20 single tests of five hours each, at intervals of two hours. Strictly following a scheduled test program, each of the five-hour tests included one to three start performances, a performance with 80 percent of the power, and the cruising power. The engine models constructed by German scientists stood the test successfully. Some individual parts were even tested for 400 hours.
9. Materials procurement was for a long time a critical item. The shortage and the varying qualities of the material were problems to be solved. Directives worked out by German experts finally eliminated these difficulties. A propeller for the Jumo 004 had been ordered at an unknown plant and had not arrived by 22 September 1950. The fuels supplied to the plant, kerosene and petroleum, were impure.

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10. It is believed that the designs of all power plants were sent to Kazan. Connections to other plants and other designer groups could not be ascertained. Rumors on other Soviet activities indicated that V-2 launchings were frequently undertaken. It was learned from Major Kvasov that a Soviet designing office, probably located in the Leningrad area, worked on the reconstruction of the English Hene power plant. High fuel consumption and the poor functioning of the control devices presented difficulties in this project. Major Kvasov also stated that the Soviets had difficulties in the production of precision mechanical parts and modern propellers.

Miscellaneous

11. Every German engineer repeatedly refused to sign the five-year contract to work in the USSR. They all insisted upon being sent home immediately. This led to serious disagreements between Flugkapitain Pohl (fnu) and Soviet Colonel Olekhovich, especially during the spring of 1950. 2/ Of a total of 650 German families, 200 were sent home and 50 were transferred to Moscow on 22 September 1950. Major General V. I. Stalin, who previously had initiated the deportation of the German experts, now spoke up for them, feeling that promises ought to be kept.
12. The Germans and also very many Soviets listened to the American and English propaganda broadcasts. Source was convinced that a good propaganda broadcast would be successful. Many Soviets heard broadcasts from the BBC and the Voice of America in the German language, which could be heard clearly. All broadcasts in Russian and English were jammed and not understandable. The Tokayev broadcasts were heard by almost all Soviets in Kuibyshev, who told the Germans the contents of the program.
13. The political training of the Germans, which had been started on a large scale, proved to be a failure. The average political training personnel was incapable of replying to German arguments during the discussions held. An attempt of Semenov (fnu), who personally tried to continue the training during the winter of 1949/1950, failed against a silent strike of the Germans.
14. The attitude toward the Germans differed in the USSR. While industrial circles were against their employment, their work was supported by the air armament ministry, the air force, and the MVD. Soviet engineers feared that without German experts they could not be able to carry on various projects.
15. Being well informed about the strength of the American armament industry, Soviet engineers were generally afraid of an eventual war. They believed that the members of the Politburo split into two parties, one favoring a preventive war and the other one trying to prevent war at any price. The same split was observed among the population, because many appreciated the American aid during World War II.
16. A large airfield occupied by four-engine aircraft was seen about 50 km south of Logilev, presumably near the Bishop (?) railroad station.
17. Source learned that since the summer of 1950 a new Volga power plant was under construction near Krasnaya Glinka near the Shiguli (?) mountains. Soviets said that this power plant was being constructed for atomic plants. Germans believed that the new plant will meet the power requirements of the Kuibyshev industrial plants.
18. New natural oil fields were being exploited about 30 km south of Kuibyshev. It was said that these resources were almost as large as the Baku oil fields.
19. The German chemist Doctor Theo. Fischer from the Schkopau Buna Plant worked in an experimental Buna plant in Chapoyev. Quantity production of Buna was planned to start later in Karaganda.
20. The railroad facilities have been improved considerably since 1946. It was noticed that many women were employed. The single-track Kuibyshev - Penza - Tula railroad line was in a good condition except for the obsolete switching equipment; the switches were operated by girls. Compared with

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European conditions the coal stocks available seemed to be very large. The railroad repair shops seemed rather primitive. The locomotive material appeared to be better than that observed in the Soviet Zone. Extensive construction activities were observed in the western parts of the White Russian SSR. Engineer units laying second tracks and improving the railroad stations were seen along the railroad line for many miles.

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Comments:

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- 1/ According to information [REDACTED] Dr. Scheibe was sentenced to 15 years' imprisonment because of the death of Dr. Scheibe, former chief of the experimental engine Bench Test Section, who was killed in an aircraft which Dr. Scheibe had approved.
- 2/ According to other information, Olekhovich was made deputy director of the TsIAM Plant. He was replaced by Kusnetsov at Upravlencheski in mid-1950.

Attachment: List of Deported Experts of the Aircraft Engine Group Under Doctor Scheibe.

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